AMENDMENTS TO THE CLAIMS

Claim 1. (withdrawn) A management and administration system for identifying and visualizing Packet over Synchronous Optical Network (PoS) channels in a data communications network, the system comprising:

a. a first body of data link connectivity information for holding connectivity information regarding a plurality of data links established in the data network, the connectivity information specifying data link terminations having channel specifications, the connectivity information regarding each data link termination further specifying a port of a data network node on which a corresponding data link endpoint terminates, each port having a one of a channelized and unchannelized configuration, the channel specification for each unchannelized port including a virtual channel specification associated therewith; and

b. a display interface showing a current state of the data network including data links established between corresponding pairs of channelized and unchannelized ports on corresponding data network nodes.

Claim 2. (withdrawn) A management and administration system as claimed in claim 1, wherein the first body of connectivity information further comprises a data link record.

Claim 3. (withdrawn) A management and administration system as claimed in claim 1, wherein the first body of connectivity information further comprises a plurality of nodal data link records, each one of the nodal data link records being associated with a corresponding data network node in the data network.

Claim 4. (withdrawn) A management and administration system as claimed in claim 1, further comprising a second body of connectivity information enabling the selection of data link terminations of data links provisioned in the data network.

Claim 5. (withdrawn) A management and administration system as claimed in claim 4, wherein connectivity information held in the second body of connectivity information specifies data link terminations down to a channel specification, the connectivity information regarding data link terminations further specifying ports on which each data link terminates, the ports having a one of a channelized and unchannelized

configuration, the channel specification for each unchannelized port including a virtual channel specification associated therewith.

Claim 6. (withdrawn) A method of provisioning a data link in a data networking environment comprising the steps of:

a. selecting a first and a second data link terminations from a selection group of data link terminations, specifications of the first and second data link terminations including channel specifications;

b. validating the selected first and second data link terminations; and

c. establishing a data link between the first and second data link terminations.

Claim 7. (withdrawn) A method as claimed in claim 6, wherein selecting the first data link termination having the channel specification, the method further comprises a step of selecting a first channel of a first channelized port corresponding to the first termination.

Claim 8. (withdrawn) A method as claimed in claim 6, wherein selecting the first data link termination having the channel specification, the method further comprises a step of selecting a first virtual channel of a first unchannelized port corresponding to the first termination.

Claim 9. (withdrawn) A method as claimed in claim 8, wherein prior to the selection of the first virtual channel of the first unchannelized port, the method further comprises a step of assigning a virtual channel to the first unchannelized port, the virtual channel having a data transport capacity substantially equal to the data transport capacity of the first unchannelized port.

Claim 10. (withdrawn) A method as claimed in claim 6, wherein selecting the second data link termination having the channel specification, the method further comprises a step of selecting a second channel of a second channelized port corresponding to the second termination.

Claim 11. (withdrawn) A method as claimed in claim 6, wherein selecting the second data link termination having the channel specification, the method further

comprises a step of selecting a second virtual channel of a second unchannelized port corresponding to the second termination.

Claim 12. (withdrawn) A method as claimed in claim 11, wherein prior to the selection of the second virtual channel of the second unchannelized port, the method further comprises a step of assigning a virtual channel to the second unchannelized port, the virtual channel having a data transport capacity substantially equal to the data transport capacity of the second unchannelized port.

Claim 13. (withdrawn) A method as claimed in claim 6, wherein validating the selected first and second data link terminations, the method further comprises steps of checking for a match with respect to at least one of a data link capacity and a data transport protocol.

Claim 14. (withdrawn) A method as claimed in claim 6, wherein upon the establishment of the data link, the method further comprises a step of recording connectivity information regarding the established data link in a body of data link connectivity information.

Claim 15. (withdrawn) A method as claimed in claim 14, wherein subsequent to the establishment of the data link, the method further comprises a step of displaying the data link on a management and administration interface.

Claim 16. (withdrawn) A method as claimed in claim 15, wherein displaying the data link on the management and administration interface the method further comprises steps of:

a. determining a first data network node corresponding to the first data link termination;

b. determining a second data network node corresponding to the second data link termination; and

c. displaying a schematic representation of the established data link between schematic representations of the first and the second data network nodes.

Claim 17. (withdrawn) A method as claimed in claim 16, wherein determining the first data network node corresponding to the first data link termination, the method further comprises a step of examining the body of connectivity information.

Claim 18. (withdrawn) A method as claimed in claim 16, wherein determining the second data network node corresponding to the second data link termination, the method further comprises a step of examining the body of connectivity information.

wherein A method as claimed in claim 16, wherein displaying a schematic representation of the established data link between the fist and the second data network nodes, the method further comprises a step of displaying a aline connecting representations of the fist and the second data network nodes.

Claim 19. (withdrawn) A method as claimed in claim 16, wherein displaying a schematic representation of the established data link between the fist and the second data network nodes, the method further comprises a step of displaying data link identification information.

Claim 20. (withdrawn) A method as claimed in claim 16, wherein displaying a schematic representation of the established data link between the fist and the second data network nodes, the method further comprises a step of displaying data link data transport capacity information.

Claim 21. (withdrawn) A method of identifying and visualizing Packet over Synchronous Optical Network (PoS) channels in a data communications network, the method comprising:

a. selecting a data link from a plurality of data link specifications held in a body of data link connectivity information;

b. identifying a first and a second terminations of the selected data link, specifications of the first and second data link terminations having channel specifications, the connectivity information regarding each data link termination further specifying a port of a data network node on which a corresponding data link endpoint terminates, each port having a one of a channelized and unchannelized configuration,

the channel specification for each unchannelized port including a virtual channel specification associated therewith; and

c. displaying a schematic representation of the data link on a management and administration interface showing a current state of the data network including data links.

Claim 22. (withdrawn) A method as claimed in claim 6, wherein identifying one of the first and the second data link port termination having a virtual channel specification, the method further comprises a step of employing the virtual channel ascribed to the corresponding unchannelized port for displaying the data link.

Claim 23. (withdrawn) A method as claimed in claim 22, wherein displaying the schematic representation of the data link terminating on an unchannelized port, the method further comprises displaying a data link termination icon indicating the virtual channelization of the unchannelized port.

Claim 24. (withdrawn) A method as claimed in claim 21, wherein displaying the data link on the management and administration interface the method further comprises:

a. identifying a first data network node corresponding to the first data link termination;

b. identifying a second data network node corresponding to the second data link termination; and

c. displaying schematic representations of the first and the second data network nodes along with the schematic representation of the data link therebetween.

Claim 25. (withdrawn) A method as claimed in claim 24, wherein identifying each of the first data network node corresponding to the first data link termination, and the second data network node corresponding to the second data link termination, the method further comprises a step of examining a body of network connectivity information.

Claim 26. (withdrawn) A method as claimed in claim 25, wherein displaying a schematic representation of the data link, the method further comprises displaying a line connecting representations of the fist and the second data network nodes.

Claim 27. (withdrawn) A method as claimed in claim 21, wherein displaying a schematic representation of the data link, the method further comprises determining and displaying data link identification information.

Claim 28. (withdrawn) A method as claimed in claim 21, wherein displaying a schematic representation of the data link, the method further comprises determining and displaying data link data transport capacity information.

Claim 29. (new) A method of visualizing Packet over SONET (PoS) links in a data communications network, the method comprising:

maintaining connectivity information between nodes in the form of a plurality of data link records, each data link record corresponding to one link and one port on one node , the data link records having the same structure for channelized and unchannelized port types and the same structure for port-port, port-channel, and channel-channel connection types; and

displaying PoS links of interest in a similar manner, regardless of the port type of ports bounding each PoS link and regardless of connection type of each link.

Claim 30. (new) The method of claim 29 wherein maintaining connectivity information comprises populating each data link record with the port type of the link on the node of data link record, and with a channel number, the channel number being either a real channel number if the port type of the data link record is channelized or a virtual channel number if the port type of the data link record is unchannelized.

Claim 31. (new) The method of claim 30 wherein at least one data link record corresponds to a link on a channelized port and at least one data link record corresponds to a link on an unchannelized port.

Claim 32. (new) The method of claim 30 wherein at least two data link records correspond to links having different connection types, the connection types being one of port-port, port-channel, and channel-channel.

Claim 33. (new) The method of claim 30 further comprising identifying two nodes of interest, and wherein displaying PoS links comprises displaying all PoS links between the two nodes of interest in a similar way regardless of the port type of ports bounding each PoS link and regardless of connection type of each link.

Claim 34. (new) The method of claim 33 further comprising more than two nodes of interest, and wherein displaying PoS links comprises displaying all PoS links between the nodes of interest in a similar way regardless of the port type of ports bounding each PoS link and regardless of connection type of each link.

Claim 35. (new) The method of claim 33 wherein displaying all PoS links between the two nodes comprises displaying only the PoS links without displaying underlying physical network information.